



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,562	02/25/2002	Tomoichi Kamo	62807-04	8250

7590 02/18/2005

McDermott, Will & Emery
600, 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

YUAN, DAH WEI D

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,562

Applicant(s)

KAMO ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FUEL CELL POWER GENERATION EQUIPMENT
AND A DEVICE USING THE SAME

Examiner: Yuan

S.N. 10/080,562

Art Unit: 1745

February 16, 2005

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 2, 2004 has been entered. Claims 14,16-18 were amended.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on August 20, 2004.

Claim Rejections - 35 USC § 103

3. Claims 14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonetsu et al. (US 6,506,513 B1) in view of Hockaday et al. (US 2002/0182459 A1).

With respect to claims 14-18, Yonetsu et al. teach a fuel cell power generation system having a fuel cell stack body (2), a liquid fuel tank (1) and a pathway for introducing a liquid fuel from the liquid fuel tank into the stack body. The fuel cell stack body comprises a plurality of fuel cells that are electrically connected to each other. Each fuel cell has an anode, a cathode and an electrolyte membrane interposed between the electrodes. The liquid fuel tank further

comprises a plurality of fine holes (6) (unsealed vent holes). The air vent hole can also be used as a fuel-feeding hole. See Figures 1 and 3; Column 4, Lines 33-49; Column 5, Lines 46-67; Column 6, Lines 1-5.

However, Yonetsu et al. do not teach at least one of the vent holes has a gas/liquid separation function. Hockaday et al. teach a fuel cell system comprising a fuel container (7) comprising methanol. The fuel container has an exit port (13) (vent hole) that comprises a porous membrane, such as porous polyethylene or expanded polytetrafluoroethylene (PTFE), in order to let the filtered gaseous component out of the container. See Paragraphs 66,67,68, Figures 1-3. Therefore, it would have been obvious to one of ordinary skill in the art to include a porous membrane in at least one of the air vent holes of Yonetsu et al., because Hockaday et al. teach the use of such membrane to separate gas from the liquid in the fuel container of a fuel cell system.

With respect to claim 19, each fuel cell comprises a vaporizing plate (g) (a diffusion layer). See Column 4, Lines 45-49; Figure 2.

With respect to claims 20,21, a liquid fuel permeating material (8) is used to provide liquid fuel to the anode of the fuel cell stack body. See Column 6, Lines 17-39.

With respect to claims 22,23, the liquid fuel tank is made of material selected from the group consisting polyethylene, polypropylene, polycarbonate or a fluorine-containing resin such as polytetrafluoroethylene. They are all electrically insulating materials. See Column 12, Lines 22-30.

With respect to claim 24, the liquid fuel is selected from the group consisting of methanol, ethanol and propanol. See Column 5, Lines 4-7.

Response to Arguments

4. Applicant's arguments filed on August 20, 2004 have been fully considered but they are not persuasive.

Applicant's principle arguments are

Although the membrane disclosed in Hockaday has a gas/liquid separation function, the purpose of providing the membrane is entirely different that of Yonetsu.

In response to Applicant's arguments, please consider the following comments.

Hockaday teaches the use of an exit port having a gas/liquid separation function such that the filtered gaseous component can be out of the methanol fuel container. Therefore, it would have been obvious to one of ordinary skill in the art to include the porous membrane of Hockaday in at least one of the air vent holes of Yonetsu's liquid fuel tank, because Hockaday et al. teach the use of such membrane to let the filtered gaseous component out of the fuel container.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

Art Unit: 1745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
February 17, 2005

A handwritten signature in cursive script, appearing to read "Dah-Wei D. Yuan", with a long horizontal flourish extending to the right.